



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/998,750

11/30/2001

Judith A. Bayer

9998

7009

26890 7590 03/28/2008

JAMES M. STOVER  
TERADATA CORPORATION  
2835 MIAMI VILLAGE DRIVE  
MIAMISBURG, OH 45342

EXAMINER

LAstra, DANIEL

ART UNIT

PAPER NUMBER

3688

MAIL DATE

DELIVERY MODE

03/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/998,750	<b>Applicant(s)</b> BAYER ET AL.	
	<b>Examiner</b> DANIEL LASTRA	<b>Art Unit</b> 3688	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-21 have been examined. Application 09/998,750 (AUTOMATED PROMOTION RESPONSE MODELING IN A CUSTOMER RELATIONSHIP MANAGEMENT SYSTEM) has a filing date 11/30/2001.

### **Response to Amendment**

2. In response to Non Final Rejection filed 10/02/2007, the Applicant filed an Amendment on 01/02/2008, which amended claims 1, 8, and 15.

### **Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Cook (US 6,631,360).

Claim 1, Cook teaches:

A computer-implemented method of creating customer promotion response models for use in customer relationship marketing, comprising.

(a) defining an input data set for the response models, wherein the input data set is comprised of one or more Analytic Variables that include both primitives (see col 9, lines 35-45; col 12, lines 5-30; “data source, such as buy or no buy data”) *that are base variables* and conditions that *are predicates, aggregates or other function* that describe how the Analytical Variables are derived from operational data (col 12, lines 5-30; categories of said data source), and wherein the Analytic Variables are subdivided into independent and dependent variables (see col 12, lines 17-22) ;

(b) splitting the input data set into a test sample and a validation sample (see col 10, line 55 – col 11, line 20);

(c) identifying related independent and dependent variables using the test sample (see col 12, lines 5-45);

(d) identifying a Transformation Type for each of the identified related independent and dependent variables (see col 11, lines 20-65 “estimated density function”);

(e) estimating a Coefficient for each of the identified related independent and dependent variables (see col 14, lines 55-65 “each element in a decision array there is a gain or loss”);

(f) generating a Model Equation for each of the identified related independent and dependent variables using the identified Transformation Type and estimated Coefficient (see col 13, lines 5-45 “Gaussian Density function”);

(g) validating the generated Model Equation by applying it to the validation sample (see col 11, lines 5-20 “calibration”; and

(h) scoring customers retrieved from a database using the validated Model Equation as a customer promotion response model for use in customer relationship marketing (see col 11, lines 50-67).

Claim 2, Cook teaches:

The method of claim 1, wherein the Transformation Type is a mathematical operation that identifies an association between the identified related independent and dependent variables (see col 12, lines 5-45).

Claim 3, Cook teaches:

The method of claim 1, wherein the Coefficient is a relative measure of the identified related independent and dependent variables contributions to a likelihood of response (see col 12, lines 5-20; col 13, lines 25-45).

Claim 4, Cook teaches:

The method of claim 1, wherein the Coefficient's sign indicates whether the independent variable is positively or negatively correlated with the dependent variable (see col 14, lines 55-65; "gain or loss").

Claim 5, Cook teaches:

The method of claim 1, wherein the Model Equation is a mathematical representation of the association of the identified related independent and dependent variables that result in the statistical best fit of known responders versus non-responders (see col 12, lines 5-12).

Claim 6, Cook teaches:

The method of claim 1, wherein the validating step (g) further comprises applying the generated Model Equation to the validation sample in order to predict a likelihood of response as compared to an actual response in the validation sample (see col 11, lines 5-20; col 13, lines 5-45).

Claim 7, Cook teaches:

The method of claim 1, wherein the scoring step (h) further comprises applying the validated Model Equation to the customers retrieved from the database in order to predict responses from the customers in a future promotional campaign (see col 11, lines 50-65; col 13, lines 5-45).

Claims 8-14 are written as system claims but contains the same limitations as claims 1-7, therefore, the same rejection is applied.

Claims 15-21 are written as article of manufacturer claims but contains the same limitations as claims 1-7, therefore, the same rejection is applied.

### **Response to Arguments**

4. Applicant's arguments filed 01/02/2008 have been fully considered but they are not persuasive. The Applicant argues that Cook does not teach "Analytical Variables that include both primitives that are base variables and conditions that are predicates, aggregates or other functions that describe how the Analytical Variables are derived from operational data". The Applicant further argues that the Office action assertion that Cook teaches said limitation is erroneous, because the claim recites that conditions are "predicates, aggregates or other functions that describe how the Analytical Variables are derived from operational data and classifying data in a category, according to the

Applicant, does not teach these limitations. The Applicant further argues that the classification in Cook is performed first, and then a source of data for each defined category is defined. The Examiner answers that Applicant's specification only mentions said "condition" limitation in page 6 lines 15-32 where it recites "Analytical variables are comprised of primitives and conditions that describe how the Analytical Variable are derived from the operational data. Primitives are base variables, while conditions are predicates, aggregates or other functions." The Applicant's specification page 6 gives an example, where it recites "for example "Sum of sales" in "Merchandise Department" during "Last 6 months" may identify hundreds of variables. However, the system could create an Analytical Variable by summing a "Sales" base variable (i.e. primitive) associated with multiple primitives (e.g. Department and Transaction Date variables) and conditions (e.g. Department = "Merchandise" and Transaction date > "February 1, 2001"). Thereafter, the user creates an Analytical Data Set Template containing the desired Analytical Variables required for a specific analysis task". Therefore, according to the Applicant's specification, said limitation of "Analytical Variables that include both primitives that are base variables and conditions that are predicates, aggregates or other functions that describe how the Analytical Variables are derived from operational data" simply means, according to Applicant's specification, selecting the Analytical variables from base variables by applying some type of condition selection to said base variables. Applicant's specification only recites "that conditions are predicates, aggregates or functions" and nothing else and Applicant's argues that Cook does not teach said claimed limitation by only reciting the claimed language without explaining

Art Unit: 3688

the meaning of said claim language. Cook teaches selecting a base variable category (i.e. buyer/non-buyer) and applying some type of selection function to said data, which for example, is “n selected individuals’ related data is removed from the training data structure” in order to create Analytical variables to be used in a density function for each category based on the training data structure with the selected individual’s data removed” (see col 3, lines 30-40). Cook teaches applying conditions to primitive data (i.e. categories) in order to determine which analytical variables to use in order to predict if buyers/non buyers. Furthermore, Cook teaches that that data source may include independent (i.e. profile features such as buy or not buy) and dependent variables (i.e. category into which a profile individual falls) (see col 12, lines 10-30). Therefore, contrary to Applicant’s argument, Cook teaches Applicant’s claimed limitation.

The Applicant argues that Cook does not teach “splitting the input data set into a test sample and validation sample”. The Examiner answers that the Applicant argues that Cook does not teach said claimed limitation by simply reciting the claimed language but without explaining said claimed language. Cook teaches identifying a data source (i.e. test sample) and a training sample (i.e. validation sample) (see col 12, lines 25-35). Furthermore, Cook teaches a validation sample when a decision array compares an individual true category to the category predicted by the selected interface engine (see col 11, lines 10-20). Therefore, contrary to Applicant’s argument, Cook teaches Applicant’s claimed limitation.



The Applicant argues that Cook does not teach “identifying related independent and dependent variables using the test sample”. The Examiner answers that the Applicant argues that Cook does not teach said claimed limitation by simply reciting the claimed language but without explaining said claimed language. Cook teaches that that data source may include independent (i.e. profile features such as buy or not buy) and dependent variables (i.e. category into which a profile individual falls) (see col 12, lines 10-30). Therefore, contrary to Applicant’s claimed invention, Cook teaches Applicant’s claimed limitation.

The Applicant argues that Cook does not teach “identifying a transformation type, which is defined as a mathematical operation that provides the strongest association between the identified related independent variable and the dependent variable. The Examiner answers that Cook teaches probability density functions that result in normal or quadratic decision surfaces (see col 10, lines 1-10), where said density function is used to create a decision array (see col 3, lines 45-55) and where each element of the decision array there is a gain or loss (see col 14, lines 55-65) which shows an association between the identified related independent variables (i.e. individual profile features see col 10, lines 55-65) and the dependent variables (i.e. category into which a profile individual falls) (see col 12, lines 10-30). Therefore, contrary to Applicant’s argument, Cook teaches Applicant’s claimed limitation.

The Applicant argues that Cook does not teach “estimating a coefficient for the identified related independent and dependent variables”. The Examiner answers that the Applicant argues that Cook does not teach said claimed limitation by simply reciting

the claimed language but without explaining said claimed language. Cook figures 12 and 13 teach estimating coefficients (i.e. density value) for each independent and dependent variable of said graph. Therefore, contrary to Applicant's argument, Cook teaches Applicant's claimed limitation.

The Applicant argues that Cook does not teach "a model equation". The Examiner answers that the Applicant argues that Cook does not teach said claimed limitation by simply reciting the claimed language but without explaining said claimed language. Cook teaches a inference engine, which are algorithms that calculate how independent variables for a given category are distributed according to some probability density function (see col 10, lines 1-10). Therefore, contrary to Applicant's argument, Cook teaches a "model equation".

The Applicant argues that Cook does not teach "validating the generated Model Equation by applying it to validation sample". The Examiner answers that the Applicant argues that Cook does not teach said claimed limitation by simply reciting the claimed language but without explaining said claimed language. Cook teaches performing a calibration process to determine the accuracy of a forecast (see col 11, lines 5-20). Therefore, contrary to Applicant's argument, Cook teaches Applicant's claimed invention.

The Applicant argues that Cook does not teach "scoring customers retrieved from a database using a Model Equation". The Examiner answers that the Applicant argues that Cook does not teach said claimed limitation by simply reciting the claimed language but without explaining said claimed language. Cook figures 12 and 13 teach

determining the relative density value (i.e. score) for each individual category, feature and category. Therefore, contrary to Applicant's argument, Cook teaches Applicant's claimed limitation.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LASTRA whose telephone number is 571-272-6720 and fax 571-273-6720. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ERIC W. STAMBER can be reached on 571-272-6724. The official Fax number is 571-273-8300.

Art Unit: 3688

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/DANIEL LASTRA/

Art Unit 3688

March 20, 2008